

WHAT IS CLAIMED IS:

1. An improved vaccine composition that includes a nucleic acid molecule encoding an antigen polypeptide, wherein the improvement comprises ribavirin.

5 2. The improved vaccine composition of Claim 1, wherein said antigen is a viral antigen.

3. The improved vaccine composition of Claim 1, wherein said antigen is obtained from a virus selected from the group consisting of hepatitis A virus, hepatitis B virus, and hepatitis C virus.

10 4. The improved vaccine composition of Claim 1, wherein said antigen is obtained from hepatitis C virus.

5. The improved vaccine composition of Claim 4, wherein said antigen comprises NS3.

6. The improved vaccine composition of Claim 4, wherein said antigen comprises NS4A.

15 7. The improved vaccine composition of Claim 1, wherein the amount of ribavirin is at least 0.25mg.

8. The improved vaccine composition of Claim 1, wherein the amount of ribavirin is between about 0.25mg and 100mg.

20 9. The improved vaccine composition of Claim 1, wherein the amount of ribavirin is between about 0.25mg and 25mg.

10. The improved vaccine composition of Claim 1, wherein the amount of ribavirin is between about 0.25mg and 1mg.

25 11. The improved vaccine composition of Claim 1, wherein the amount of ribavirin is at least 0.1mg ribavirin per kg body weight of a subject receiving said composition.

12. The improved vaccine composition of Claim 1, wherein the amount of ribavirin is between about 0.1mg ribavirin to about 1.0 mg ribavirin per kg body weight of a subject receiving said composition.

30 13. The improved vaccine composition of Claim 1, wherein the amount of ribavirin is between about 1.1mg ribavirin to about 2.0 mg ribavirin per kg body weight of a subject receiving said composition.

14. The improved vaccine composition of Claim 1, wherein the amount of ribavirin is between about 2.1mg ribavirin to about 3.0mg ribavirin per kg body weight of a subject receiving said composition.

5 15. The improved vaccine composition of Claim 1, wherein the amount of ribavirin is between about 3.1mg ribavirin to about 4.0mg ribavirin per kg body weight of a subject receiving said composition.

16. A method of making the improved vaccine composition of Claim 1 comprising:

10 providing an antigen;
providing ribavirin; and
combining said antigen and said ribavirin so as to make said improved vaccine composition.

17. The method of Claim 16, wherein said antigen is a viral antigen.

15 18. The method of Claim 16, wherein said antigen is obtained from a virus selected from the group consisting of hepatitis A virus, hepatitis B virus, and hepatitis C virus.

19. The method of Claim 16, wherein said antigen is obtained from hepatitis C virus.

20 20. The method of Claim 16, wherein the amount of ribavirin is at least 0.25mg.

21. The method of Claim 16, wherein the amount of ribavirin is between about 0.25mg and 100mg.

22. The method of Claim 16, wherein the amount of ribavirin is between about 0.25mg and 25mg.

25 23. The method of Claim 16, wherein the amount of ribavirin is between about 0.25mg and 1mg.

24. The method of Claim 16, wherein the amount of ribavirin is at least 0.1mg ribavirin per kg body weight of a subject receiving said composition.

30 25. The method of Claim 16, wherein the amount of ribavirin is between about 0.1mg ribavirin to about 1.0 mg ribavirin per kg body weight of a subject receiving said composition.

26. The method of Claim 16, wherein the amount of ribavirin is between about 1.1mg ribavirin to about 2.0 mg ribavirin per kg body weight of a subject receiving said composition.

5 27. The method of Claim 16, wherein the amount of ribavirin is between about 2.1mg ribavirin to about 3.0mg ribavirin per kg body weight of a subject receiving said composition.

28. The method of Claim 16, wherein the amount of ribavirin is between about 3.1mg ribavirin to about 4.0mg ribavirin per kg body weight of a subject receiving said composition.

10 29. A method of enhancing an immune response to an antigen comprising:
providing a subject the improved vaccine composition of Claim 1,
whereby the immune response of said subject to said antigen is enhanced.

30. The method of Claim 29, wherein said antigen is a viral antigen.

15 31. The method of Claim 29, wherein said antigen is obtained from a virus
selected from the group consisting of hepatitis A virus, hepatitis B virus, and hepatitis C virus.

32. The method of Claim 29, wherein said antigen is obtained from hepatitis C virus.

33. The method of Claim 32, wherein said antigen comprises NS3.

20 34. The method of Claim 32, wherein said antigen comprises NS4A.

35. The method of Claim 29, wherein the total antibody titer specific for said antigen is increased.